



UNITED STATES PATENT AND TRADEMARK OFFICE

4/p

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,354	11/29/2000	Margaret B. Stern	1059-0100	1270

25263 7590 08-28-2002

J GRANT HOUSTON
AXSUN TECHNOLOGIES INC
1 FORTUNE DRIVE
BILLERICA, MA 01821

EXAMINER

HASAN, MOHAMMED A

ART UNIT PAPER NUMBER

2873

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/725,354

Applicant(s)

STERN ET AL.

Examiner

Mohammed Hasan

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 9 - 16, 22 - 26 is/are rejected.
- 7) ☒ Claim(s) 4 - 8, 17 - 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Oath/Declaration

1. Oath and declaration filed on 11/29/00 is accepted.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 14 are rejected under 35 U.S.C 102 (b) as being anticipated by Dirksen et al (5,674,650).

Regarding claim 1, Dirksen et al discloses (refer to figures 1A, 1B and 2) a mass transported alignment mark system (e.g., two alignment marks M1 and M2, column 11, lines 37 – 38) having a substrate (W) that has been subjected to a mass transport process (e.g., which is imaging a mask pattern on a substrate, column 11, lines 9 – 11); and a lens alignment structure formed on the substrate that yields a light pattern when the substrate or a plane near the substrate is imaged (column 11, lines 26 – 27, refer to figure 1A).

Art Unit: 2873

Regarding claim 14, Dirksen et al discloses (refer to figures 1A, 1B and 2) an alignment mark system (e.g., two alignment marks M1 and M2, refer to figure 1A) having a substrate (W); and a lens alignment structure formed in the substrate that has a focal point in the substrate or near a surface of the substrate (column 11, lines 26 – 27, e.g., refer to figure 1A, focal point in the substrate).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2, 3, 9 - 13 , 15, 16 , and 22 – 26 are rejected under 35 U.S.C 103 (a) as being unpatentable over Dirksen et al (5,674,650) in view of Liau et al (5,807,622).

Regarding claim 2, as applied to claim 1, Dirksen et al discloses all of the claimed limitations except where the substrate is gallium phosphide. Liau et al discloses gallium phosphide (column 3, lines 43 – 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a substrate with the gallium phosphide for the purpose of light emitting materials are suitable material for fabrication of lens structure in the substrate as taught by Liau et al (column 3, lines 50 – 52).

Art Unit: 2873

Regarding claim 3, Dirksen et al discloses all of the claimed limitations except where the substrate is silicon. Liao et al discloses silicon (column 3, lines 43 – 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a substrate with a silicon for the purpose of fabrication of optical structure as taught by Liao et al (column 3, lines 44 – 45).

Regarding claims 9 – 13, as applied to claim 1, Dirksen et al discloses all of the claimed limitations except, lens alignment structure comprises a concave lens, a cylindrical lens, a concave cylindrical lens, multiple concave cylindrical lens and orthogonally with respect each other. Liao et al discloses the alignment mark system can be used in the structure of many types of lens, as is set forth in column 4, lines 13 – 23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide alignment mark system in to the Dirksen mask pattern for the purpose of high performance lenses or lenses system can be made as taught by Liao et al (column 4, lines 14 – 15).

Regarding claim 15, as applied to claim 14, Dirksen et al discloses all of the claimed limitations except where the substrate is gallium phosphide. Liao et al discloses gallium phosphide (column 3, lines 43 – 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a substrate with the gallium phosphide for the purpose of light emitting materials are suitable material for fabrication of lens structure in the substrate as taught by Liao et al (column 3, lines 50 – 52).

Regarding claim 16, Dirksen et al discloses all of the claimed limitations except where the substrate is silicon. Liao et al discloses silicon (column 3, lines 43 – 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a substrate with a silicon for the purpose of fabrication of optical structure as taught by Liao et al (column 3, lines 44 – 45).

Regarding claims 22 – 26, as applied to claim 14, Dirksen et al discloses all of the claimed limitations except, lens alignment structure comprises a concave lens, a cylindrical lens, a concave cylindrical lens, multiple concave cylindrical lens and orthogonally with respect each other. Liao et al discloses the alignment mark system can be used in the structure of many types of lens, as is set forth in column 4, lines 13 – 23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide alignment mark system in to the Dirksen mask pattern for the purpose of high performance lenses or lenses system can be made as taught by Liao et al (column 4, lines 14 – 15).

Allowable Subject Matter

4. Claims 4 - 8, and 17 – 21, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2873

5. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a metal layer that is aligned to the light pattern, a metal layer is used in a metal bonding process, and a metal layer is used in a solder bonding process.

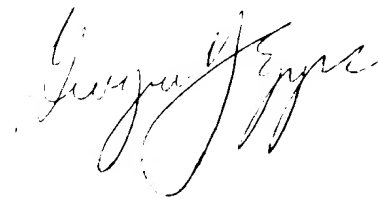
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (703) 306-0089. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (703) 308-4883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MH
August 21, 2002

A handwritten signature in cursive script, appearing to read "Georgia Epps", is located in the bottom right corner of the page.